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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,400	07/31/2003	Anjali Jha	020547	2926
23696	7590	10/03/2006	EXAMINER	
QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			DOAN, KIET M	
			ART UNIT	PAPER NUMBER
			2617	

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/632,400

Applicant(s)

JHA, ANJALI

Examiner

Kiet Doan

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/31/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/24/2006 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1, 18 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al. (Patent No. 6,801,782) in view of Wang et al. (Patent No. 6,721,567):

Consider **claims 1, 18 and 31**. McCrady teaches a method of supporting a handover decision in a wireless communication system comprising:

deriving a single time of arrival measurement each from a single source from a plurality of transmitting sources (Abstract, Line 1-7, C6, L42-67, C7, L1-54, Fig.1, Illustrate master radio 12 communicate between plurality reference radio 14, 16, 18 and 20 as read on plurality of transmitting sources wherein contain time of arrival measurement). McCrady teaches the limitation of claim of claim **but silent on**

obtaining an estimate of position, velocity and direction of motion of a subscriber station from the time of arrival measurement; and
using the estimate, or information derived there-from, to support the handover decision.

In an analogous art, Wang teaches "Apparatus and an associated method, for selecting a likely target cell in a cellular communication system". Further, **Wang teaches** obtaining an estimate of position, velocity and direction of motion of a subscriber station from the time of arrival measurement; and

using the estimate, or information derived there-from, to support the handover decision (Abstract, C3, L1-38, C6, L6-67, teach obtain position, velocity which mobile is traveling/heading to support the handover decision).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify McCrary and Wang system, such that deriving a single time of arrival measurement each from a single source from a plurality of transmitting sources and obtaining an estimate of position, velocity and direction of motion of a subscriber station from the time of arrival measurement to support the handover to provide means for determine the accuracy position and direction of subscriber/mobile device when handover.

2. Claims 2-3, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (Patent No. 6,721,567) in view of Vayanos (Patent No. 6,718,174).

Consider **claims 2 and 19**, Wang teaches the method of claim 1 wherein the obtaining step comprises:

retrieving a stored estimate and returning the retrieved estimate if sufficiently current to be accurate (C5, L34-42 teach HLR wherein store information of mobile station and where can be retrieving). Wang teaches the limitation of claim as discuss **but fail to teach** and deriving an updated estimate and returning the same if the retrieved estimate is insufficiently current to be accurate.

In an analogous art, Vayanos teaches "Method and apparatus for estimating velocity of a terminal in a wireless communication system". Further, Vayanos teaches and deriving an updated estimate and returning the same if the retrieved estimate is insufficiently current to be accurate (C3, L35-67, C17 L52-67, C18, L1-63, teach location determining accurate by GPS satellites).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Wang and Vayanos system, such that to provide means for retrieving a stored estimate and returning the retrieved estimate to be accurate to provide means for identify precisely location and direction moving of mobile station.

Consider **claims 3 and 20**, Vayanos teaches the method of claim 1 wherein the obtaining step is performed in response to a triggering event (Fig.3, Illustrate the obtaining step performed in response to a triggering event).

3. **Claims 4-17, 21-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (Patent No. 6,721,567) in view of Vayanos (Patent No. 6,718,174) and further view of Jones et al. (Patent No. 6,192,245).

Consider **claims 4 and 21**, Wang and Vayanos teach the limitation of claim as discuss above **but fail to teach** the method of claim 1 wherein the triggering event comprises a determination that the handover rate of the subscriber station exceeds a threshold while the subscriber station is within the coverage area of an umbrella cell.

In an analogous art, Jones teaches "Method for determining handover in a multicellular communications system". Further, Jones teaches the method of claim 1 wherein the triggering event comprises a determination that the handover rate of the subscriber station exceeds a threshold while the subscriber station is within the coverage area of an umbrella cell (C2, L59-67, C3, L1-4, L58-67, C4, L1-13, Fig.3, Illustrate step of limitation).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Wang, Vayanos and Jones system, such that determination that the handover rate of the subscriber station exceeds a threshold while the subscriber station is within the coverage area of an umbrella cell to provide means for selecting best cell to handover when within the coverage area of an umbrella cell.

Consider **claims 5, 10, 14 and 27**. Vayanos teaches the method of claim 4 wherein the obtaining step comprises obtaining an estimate of the velocity of the subscriber station (Abstract, C3, L1-11).

Consider **claims 6, 11 and 22**. Jones teaches the method of claim 5 wherein the using step comprises deciding to handover the subscriber station to the umbrella cell if the estimate of the velocity of the subscriber station exceeds a threshold (C2, L59-67, C3, L1-4, L58-67, C4, L1-13, Fig.3, Illustrate step of limitation).

Consider **claims 7 and 23**. Jones teaches the method of claim 6 further comprising blocking a handover back to a micro-cell at least for a time (C3, L1-38, Fig.1, Illustrate handover boundary between micro cell 4 and 3 where handover back to a micro-cell at least for a time).

Consider **claims 8 and 24**. Jones teaches the method of claim 3 wherein the triggering event is a timeout condition occurring while the subscriber station is within the coverage area of an umbrella cell (C3, L58-67, C4, L1-5, Fig.2, No.25, Illustrate the limitation).

Consider **claims 9 and 25**. Jones teaches The method of claim 8 wherein the timeout condition indicates the subscriber station has not experienced a handover within a prescribed period of time (C4, L6-13, Fig.2, No.26, Illustrate the limitation).

Consider **claims 12-13 and 26**. Jones teaches the method of claim 3 wherein the triggering event is a directed retry condition (C4, L6-13, Fig.2, No.27 "NO" teach directed retry condition)

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Consider **claims 15-17 and 28**. Jones teaches the method of claim 14 further comprising deciding to perform a handover if the one or more estimates indicate (1) the subscriber station is located closer to a target cell than a serving cell; or (2) the subscriber station is moving towards the target cell and away from the serving cell (C3, L5-55, teach deciding to perform a handover, Fig.1, Illustrate the limitation of claim).

Consider **claim 29**. Jones teaches the system of claim 18 wherein the one or more entities comprise a base station controller and a serving mobile location center (C2, L61-67, C3, L1-4).

Consider **claim 30**. Jones teaches the system of claim 18, wherein the one or more entities comprise a mobile switching center and a serving mobile location center (C2, L61-67, C3, L1-4, teach the handover which the mobile switching center/BST).

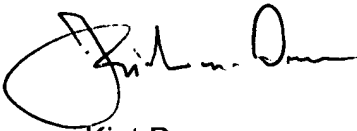
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiet Doan whose telephone number is 571-272-7863. The examiner can normally be reached on 8am - 5pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kiet Doan
Patent Examiner


GEORGE ENG
SUPERVISORY PATENT EXAMINER